

What is claimed is:

1. A method for manufacturing multimaterial parts, the multimaterial used in the method containing a tough ferrous ($\text{Fe} > 50 \text{ wt. \%}$) material component (B) in a
5 desired distribution with a hard, wear-resistant material (A), in which method a green body is prepared from the tough material component (B) and the hard material component (A) by isostatic hot pressing into a substantially densified green body, **characterized** in that the green body is hot worked up to a hot working degree 2 minimum so as to obtain a desired distribution between the tough material component (B) and the hard material component (A), and the working degree is determined
10 from the cross-sectional areas of the body prior to and after hotworking.
2. The method of claim 1, **characterized** in that the wear-resistant component (A) and the tough component (B) may be in either powderized, partially densified or
15 entirely solid state prior to starting the densification of the green body.
3. The method of claim 1 or 2, **characterized** in that the wear-resistant component (A) is a ferrous material ($\text{Fe} > 50 \text{ wt. \%}$) or, alternatively, a mixture of a ferrous material and a ceramic material (carbide, oxide, nitride, boride, etc.) containing not
20 more than 30 wt. % of a metallic binder, whereby the hardness of the material is greater than HRC 35, advantageously greater than HRC 50.
4. The method of any one of claims 1-3, **characterized** in that the tough material component (B) is a ferrous ($\text{Fe} > 50 \text{ wt. \%}$) or nickel ($\text{Ni} > 50 \text{ wt. \%}$) based material,
25 whereby the hardness of the material is not greater than HRC 35, advantageously not greater than HRC 25.
5. The method of any one of claims 1-4, **characterized** in that the wear-resistant material component (A) is prepared from a powderized raw material in which the
30 chemical composition of the ferrous metallic powder ($\text{Fe} > 50 \text{ wt. \%}$) in the powderized mixture is 0.5-3.5 wt. % carbon, 0.5-15 wt. % chromium, 0-5 wt. % molybdenum, less than 2 wt. % manganese and less than 2 wt. % silicon, and the propor-

tion of the carbide-forming additives such as V, Nb, Ti and W compounds in total is 3-20 wt.% and, additionally, the powderized mixture contains not more than 50 wt. % ceramic particulates in which the proportion of a metallic binder is not greater than 30 wt. %, the rest of the composition comprising impurities or trace amounts of different additives.

6. A multimaterial part whose composition includes at least a tough ferrous (Fe > 50 wt. %) material component (B) combined with a hard, wear-resistant material (A), **characterized** in that
- 10 – the tough material component (B) forms in a workable green body an essentially homogeneous longitudinal structure, whose proportion in the green body cross section is 10-50 vol. %,
 - the cross-sectional area of a single fiber of the tough material (B) is greater than 1 mm² average and the minimum dimension in the cross section of a single fiber
 - 15 or in the wall a honeycomb-like tough structure is greater than 0.5 mm, and
 - the hardness of the hard material component (A) after heat treatment is not less than HRC 40.

7. The multimaterial part of claim 6, **characterized** in that the volume proportion of the tough material component (B) in the finished multimaterial part is 20-40 vol. %.